
CHAPTER 23: Guarding of Floor & Wall Openings/ Stairways & Platforms

23.1 Openings in Floors and Walls

The *General Industry Safety Standards – Floor and Wall Openings, Stairways and Skylights – Part 2* of MIOSHA, provides rules for safeguarding openings in floors and walls. This is to prevent persons falling into, from, or through walking or working surfaces, or into vats.



Open-Sided Floors

If your printing facility includes areas where employees are exposed to open-sided floors, platforms or runways—for example, an access platform along the back of machines and equipment—you must provide a standard barrier as described in Chapter 20.2 when the following conditions exist:

- An open-sided floor or platform is four feet or more above the floor or ground; and
- An open-sided floor, walkway, platform or runway is above or adjacent to dangerous equipment. In this circumstance, the standard barrier must include a toeboard.

NOTE: Loading docks are exempt from this requirement.

23.2 Standard Barriers and Toeboards

Standard Barrier

A standard barrier must be constructed not less than 42 inches high. A standard barrier consists of a top rail, an intermediate rail, and supporting posts. It can be of any construction that meets the basic dimension requirements if it can withstand 200 pounds applied in any direction at any point on the top rail:

In This Chapter . . .

- 23.1** Openings in Floors and Walls
- 23.2** Standards Barriers and Toeboards
- 23.3** Stairways and Railings
- 23.4** Maintenance of Floors, Platforms, and Stairs
- 23.5** Aisle Widths
- 23.6** Skylights

- Wood railings must use rails and posts of at least 2" x 4" stock with posts spaced not more than six feet.
- Pipe railings must use pipes with an outside diameter of at least one and one-half inches with posts not farther than eight feet apart.
- Structural steel railings and posts must be of 2" x 2" x 3/8" angles or other metal shapes of equivalent strength with posts spaced not more than eight feet.

Toeboards

A toeboard not less than four inches high must be added to a standard barrier when:

- People can pass or walk by;
- There is moving machinery; or
- There is equipment in which falling material could be a hazard.

23.3 Stairways and Railings

MIOSHA requires that employers provide for the safety of employees who are attempting to gain access to other elevations of 16 inches or more. Access can be provided by stairways, a ramp, a fixed ladder, or for temporary access, a portable ladder.

If you provide a stairway and it has four or more risers, you must provide handrails. Handrails must be able to withstand a 200-pound load. The handrail must be mounted so that the top of the handrail is 30 to 34 inches above the surface of the tread.

23.4 Maintenance of Floors, Platforms, and Stairs

Maintain all floors, platforms, stair treads, and landings free of broken, worn, splintered or loose pieces that could cause an employee to trip or fall.

When repairing or replacing, assure that materials being used meet design strength requirements.

23.5 Aisle Widths

When mobile equipment and your employees share the same aisle, dock or doorway, clearances must be provided and maintained to assure safe passage for the equipment and employee.

- An aisle and passageway must be marked or otherwise identified;
- A floor shall be maintained free of holes, loose boards and protruding objects which would be a hazard to your employees; and
- The maximum designed safe load limit of a floor or roof must not be exceeded.

23.6 Skylights

If employees have any exposure to working around skylights, you must provide adequate protection.

- A skylight guard shall be designed and constructed to withstand a 200-pound load that is applied at any area on the screen.
- The guard construction shall be of the grillwork design.